NEW YORK INSTITUTE
FOR THE
EDUCATION OF THE BLIND

SEPTEMBER, 1968

MEASLES BIBLIOGRAPHY

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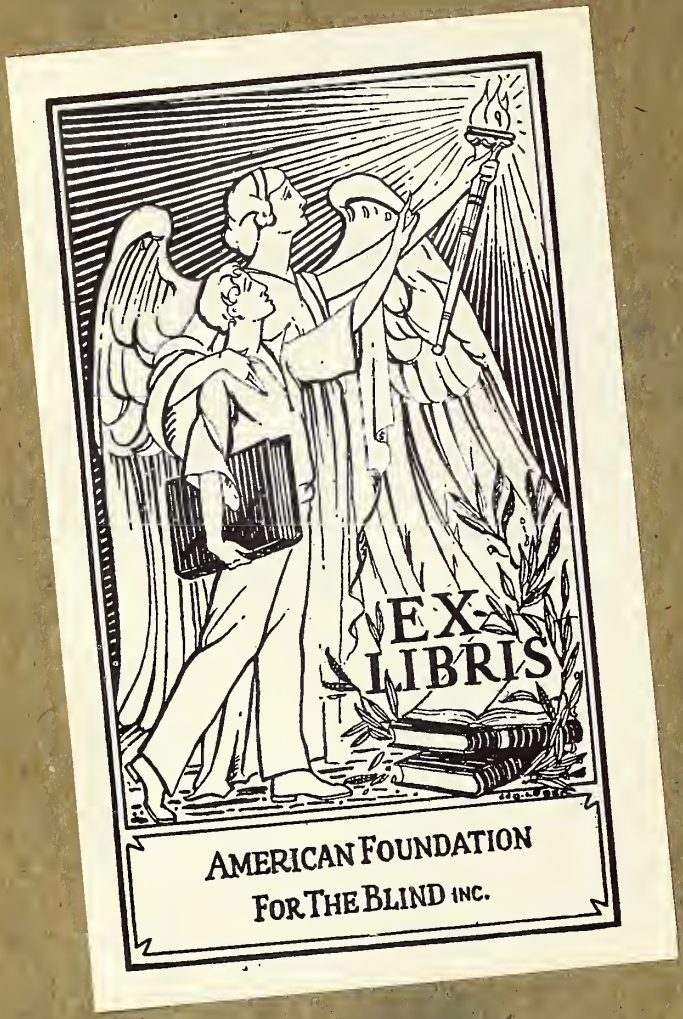
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MEASLES BIBLIOGRAPHY

AAWB Roundup. The New Outlook for the Blind, 61: 304-305, # 9, Nov., 1967. (Highlights of the 41st American Association of Workers for the Blind convention at Miami Beach) P. 304, 6th paragraph quoted in full:

The rubella wave

Reminding the audience that "deaf-blindness is more than the sum of deafness and blindness," Dr. Waterhouse discussed what we know now about these children, and warned that the true extent of the wave is as yet undetermined. He stressed the importance of reaching these children early through pediatricians. Dr. Waterhouse also warned that the pre-school and school programs for these children--many of whm are also mentally retarded--now in existence are not prepared to handle the numbers that can be expected within the next few years. Trained teachers, evaluation and research personnel, and films are in particularly short supply.

Comments:

MEASLES BIBLIOGRAPHY

(AFRICA)

Around the World. The Sight Saving Review. 32: 229-230, # 4, Winter, 1962. P. 230, col. 1, first new item quoted in full:

Republic of Upper Volta

Test of Vaccine. Measles is characteristically associated with a high mortality in West African Children.

At the request of the Minister of Health, the United States National Institutes of Health conducted a two-month pilot study to determine whether a live measles vaccine would be as safe for these youngsters as it had already proved to be for 10,000 American children. Results showed that the vaccine was safe and effective in the test group of 400.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

(AFRICA)

Around the World. The Sight-Saving Review, 31: 238-239, # 4, Winter, 1961. P. 238, col. 1, opening item quoted in full:

AFRICA

Attack on Measles. An emergency campaign is reportedly being planned by a British Commonwealth group to counteract measles, thought to be the main cause of the high incidence of blindness among natives on the borders of Northern Rhodesia and the Congo. About one adult in 45 and one child in 30 are said to be blind primarily through measles aggravated by local medicine men's remedies.

In the near future two mobile clinics are to be operating in this area to treat approxiaately 40,000 victims of measles a year.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

ALFANO, Joseph E.: Ocular Aspects of the Maternal Rubella Syndrome. Transactions American Academy Ophthalmology and Otolaryngology, 70: 235-266, # 2, March-April, 1966. (18 ref.).

Review of the literature and report of 27 personal cases, 6 children with no ocular disease, 19 with bilateral pathology, and 2 with unilateral involvement only. 15 types of abnormalities found appear in Chart III on 252: 1 microphthalmus (microcornea); 2 enlarged cornea; 3 corneal haze with glaucoma; 4 corneal haze without glaucoma; 5 congenital glaucoma; 6 cataracts; 7 shallow anterior chamber; 8 deep anterior chamber; 9 posterior synechiae; 10 nystagmus; 11 rubella retinitis; 12 convergent strabismus; 13 Parinaud's syndrome; 14 high myopia; 15 retrolental fibroplasia.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

Urges measles for little girls. The Newark Star-Ledger, p. 15, Tuesday, Nov.10, 1959. Quoted in Full:

WASHINGTON (UPI)--A prominent hearing specialist said yesterday all little girls should be exposed to German measles so they will have had the illness by the time they become mothers.

Dr. Victor R. Alfaro, head of Georgetown University's Otolaryngology Department, said German measles can hurt the sight and hearing of a newborn baby.

"As far as hearing is concerned," Dr. Alfaro said, "damage is so severe to the nerve elements of the ear that hearing can never be restored."

Dr. Alfaro spoke at the opening session of a five-day workshop on the "Psychological Assessment of the Deaf" at Gallaudet College, the world's only college for the deaf.

A selected group of 20 psychologists from 11 states is attending the conference aimed at giving them a deeper understanding of problems of handicapped persons.

Alfaro, president-elect of the D.C. Medical Society, noted that the disease is relatively mild in children, with few side effects.

Comments:

MEASLES BIBLIOGRAPHY B

ANDELMAN, S.L.: For Better Health. Moms-to-be: Beware of German Measles. The Louisville Times, Kentucky, page B 24, Thursday, March 16, 1967. First 13 paragraphs quoted in full:'

There won't be any form of mass protection available to prevent rubella, or German measles, this spring. And probably not for the next couple of springs, either.

Although the development of the first effective experimental vaccine against German measles was announced last April by the Public Health Service's National Institute, it is not about to be distributed to the general public.

Right now two stains of live, attenuated vaccine are being tested. The problem with previous experimental live rubella preparations has been that the persons inoculated with them easily spread the disease to others who were not inoculated.

It appears that this problem has been minimized in the two new strains. But much more study and experimentation is needed.

Meanwhile, we will have to be alert to the dangers German measles presents to unborn babies during the early months of pregnancy.

The disease is a very minor one with a pink rash that spreads over the entire body. It may also cause sore throat, cough, fever, headache, muscular pain and swelling of the neck.

But it is of brief duration and usually presents a real problem only when the victim is an expectant mother in the first three months of pregnancy, a time when the fetus is particularly susceptible to rubella infection.

If the disease develops during the first eight weeks the mother is pregnant, spontaneous abortion may occur or the baby may be born dead. If the disease is contracted in the first four weeks, 60 per cent of the babies born alive have some sort of defect.

Mental retardation, serious eye defects, including blindness and abnormally small eyeballs; deafness, heart disease, closure of the esophagus and enlargement of the spleen and liver are the most common results.

DIFFICULT TO AVOID

In the rubella epidemic in the spring of 1964, one of the most severe in America's history, 10,000 to 20,000 babies were damaged. So you can see why we need the new vaccine so desperately.

It is extremely difficult to avoid German measles because the virus appears in the blood and throat about three weeks before any rash becomes evident.

MEASLES BIBLIOGRAPHY (Cont.)

Some of the researchers who developed the vaccine also have come up with an inexpensive test that can determine in three hours whether an expectant mother is immune to rubella. Thus, we can find out if a mother-to-be has reason to fear the disease.

If an expectant mother is found to be susceptible, we can take extra precautions to protect her as much as possible during the first third of her pregnancy.

Comments:

MEASLES BIBLIOGRAPHY

(ANONYMOUS). When German Measles is really dangerous. The People's Journal, Scotland, page 5, Saturday, March 2, 1968. Quoted in full:

German measles is a mild disease of children and young adults, not terribly infectious, and usually mild in its effects.

But there are a few things which ought to be known about it.

The incubation period is longish--some 18 days.

About the time the rash is due to appear there may be mild general upset, with loss of appetite, nasal catarrh, and sometimes mild irritation of the eyes.

The rash is usually first noticed on the body.

It is not very bright--rather like a mild measles rash, but it tends to vary in appearance, and is often difficult to distinguish from scarlet fever.

The limbs develop the rash next, and the whole rash is gone within a day or two, leaving no staining or peeling of the skin.

The neck may be a bit stiff, and you will always find some glands at the nape of the neck.

The danger of German measles is that if there is contact with a woman who is pregnant, especially during the first twelve weeks of her pregnancy, and she has not had German measles, the virus may cause her child to be born with a congenital defect.

Medical science has found a fool-proof method of preventing this.

Gamma globulin, given by injection as soon as possible after exposure to the infection, will protect that mother-to-be and her infant.

So a pregnant woman, especially in the first 12 weeks, should tell her doctor if she suspects she may have been exposed to German measles.

It is said that a dose of German measles will "confer a high degree of immunity."

But so dreadful is the possibility of harm to the infant that, nowadays medicals prefer to take no risk.

They give the gamma globulin wherever there is any doubt.

I have used it times without number and have never seen any harm ensue to mother or infant.

So mild is the actual disease that there is a tendency to neglect it. But be careful with weakly children.

I have seen a mongoloid child develop peripheral neuritis, go off his feet, and have to be retaught to walk, all as a result of German measles.

Comments:

MEASLES BIBLIOGRAPHY

Armstrong Elected AAIB President. The New Outlook for the Blind, 60: 231, # 7, Sept., 1966. 7th paragraph quoted in full:

The group asked the U.S. Secretary of Health, Education and Welfare to conduct a survey as soon as possible to learn the educational needs and potentials of children handicapped as a result of maternal rubella. It also asked that the information be available by the summer of 1967 so that planning for education might be undertaken. (Title refers to biennial conference in July at Salt Lake City.)

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

AUERBACH, Stuart: Measles Virus Linked to Fatal Disease. New York Post, page 18, Sept. 18, 1967.

Subacute sclerosing panencephalitis, or Dawson's includion encephalitis, or SSPE.

Last paragraph: The first signs appear when the children suddenly begin doing badly in school or develop personality changes. Within a year, the victims show overt signs of brain disease. They fall, stumble, jerk, have convulsions and eventually go into a coma and die.

READER's COMMENTS:

MEASLES BIBLIOGRAPHY

(BABBOTT)

Childhood Disease Patterns. The Sight-Saving Review, 32: 21, # 1, Spring, 1962. Quoted in full:

Childhood's communicable diseases are contracted at an earlier age today than formerly because of changes in the American way of life. This is the opinion of Drs. Frank L. Babbott Jr., Bruce M. Rodenberger and Theodore H. Ingalls who recently studied the occurrence of measles, mumps, chickenpox and German measles in boys at a school in Massachusetts.

Reporting in the Journal of the American Medical Association for November 11, 1961 the team said that two reasons why youngsters are exposed to these diseases at an earlier age now than they were in the first part of the century are an increase in the childhood population itself and a trend toward urban and suburban living.

While noting that Gemman measles in boys may be moving, like the other three diseases, from the high school age to preadolescent groups, the researchers said a decrease in this disease will depend upon development of preventive measures. They added that it is more important to be sure that girls become immune during childhood since rubella in a pregnant woman can be harmful to her unborn child. Eye abnormalities are one of the conditions which can occur to a child if the mother contracts the infection during her first three months of pregnancy. Available evidence indicates that the threat for young mothers is not decreasing fast enough as a result of mere chance encounters with the disease.

According to the three doctors other studies of this kind should be undertaken, especially in girls' schools and colleges, and they should be accompanied by further research and effort to induce immunity in women by the time they graduate from either high school or college.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

BONIUK, Milton, and ZIMMERMAN, Lorenz E.: Ocular Pathology in the Rubella Syndrome. Archives of Ophthalmology, 77: 455-473, # 4, April, 1967. (18 ref.)

Ocular material from 19 infants at autopsy in Houston, Texas.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

BRODY, Jane E.: Vaccine For Measles. The New York Times, page E 7, Sunday, May 1, 1966. Quoted in full:

Since 1941, when the "innocent" childhood disease of German measles was first linked to birth defects, pregnant women have come to dread the ailment and its possible consequences.

During the German measles epidemic that swept the country from late 1963 to 1965, these fears were more than justified.

By conservative estimates, the epidemic left in its wake some 30,000 deformed babies and 20,000 fetal deaths. The figures do not include the thousands of women who underwent therapeutic abortions because they contracted German measles early in their pregnancies.

Various studies indicate that a woman has between a 30 and 50 per cent chance of bearing a deformed child if she is infected by the German measles virus during the first three months of pregnancy.

About one in five women reaches childbearing age without having had German measles and therefore without any immunity, or protection against its ravaging effects. Once a person has the disease, lifetime immunity is built up, Earlier, it had been thought that one could have German measles many times.

Old Problems

For years scientists here and abroad have sought to develop a vaccine that could offer immunity. They have been stymied by the finding that killed virus did not induce the desired immunity and that live virus produced the actual disease.

Last week, however, two Government scientists announced the development of what appears to be the first effective German measles vaccine. It is made from the live virus that has been modified so that is will induce immunity without producing infection in vaccinated persons and without spreading infection to nonvaccinated persons.

The scientists, Dr. Harry M. Meyer Jr. and Dr. Paul D. Parkman, both of the Division of Biologics Standards at the National Institutes of Health, described their vaccine studies at the annual meeting of the American Pediatrics Society in Atlantic City.

They said initial tests in 34 children indicated that the vaccine was more that 90 per cent effective and probably granted long-lasting, if not lifetime, immunity.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

Communication Handicapped Aided In Title VI Program. The Chatham Press, Chatham, New Jersey, 18: 1, # 18, Aug. 1, 1968. First four paragraphs:

For the past four weeks the doors of the Milton avenue school have been open to 25 two-to-eight-year olds from all over Morris County participating under Title Six in the Summer Diagnostic Program for Communication Handicapped Children.

Besides the children, ten full-time teachers, two secretaries, principal of Milton avenue and director August Fleck, and various part-time consulatants have been involved in the program which has been designed to provide information to the county superintendent on the need for special classes as a result of the 1964-65 Rubella epidemic which left many communication handicapped children in its wake.

The children are driven to "school" five days a week by their parents for one of two sessions, 8:30 a.m. to 10 a.m. and 10:30 a.m. to 12 noon. There they receive individual attention in the taking of a series of tests designed to pin-point their particular communication problem. Reports of the tests will be available to the parents Thursday and Friday of this week, the last of the session,as well as to any doctors, clinics or psychologists the parents might specify.

In the original survey done by Trenton, 88 cases of communication handicapped children were located in Morris County, of this number 45 contacted Milton when it was announced that Chatham would handle a diagnostic program this summer. Of the 45, 25 were accepted for the class with emphasis on the four and five year old pre-schooler who would benefit the most directly by the diagnosis. Mr. Fleck stated that the sooner communications problems were diagnosed the better for the child and for this reason he had hoped they would have more room in the program for two-year olds.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

COOPER, Louis Z.: German Measles. This mild infection can have grave results during pregnancy. In 1964 an epidemic in the U.S. caused defects in 20,000 infants. Isolation of the virus has led to intensive efforts to develop a safe vaccine. Scientific American 215: 30-37, # 1, July, 1966. Available at NYPL 42nd Street, room 121; call-number VA +.

Review of the literature. Illustration of "Eye abnormalities" on 31. Statement in first new paragraph on 36:. The rubella cataract is more difficult to repair than adult cataracts, and children with cataracts in both eyes may have little vision. Last two sentences of article on 37: The experience already gained in the development and administration of such live-virus vaccines as those for polio and measles will provide guidelines, however, for the production and distribution of an effective and safe rubella vaccine. It is not unreasonable to hope that a vaccine will be ready before the next major epidemic of rubella.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

COOPER, Louis Z. and KRUGMAN, Saul: Clinical Manifestations of Postnatal and Congenital Rubella. Archives of Ophthalmology, 77: 434-439, # 4, April, 1967. (24 ref.)

Page 436: "Eye Defects."

Page 438: Cataracts or glaucoma in 107 of 344 cases in the city of New York.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

DINSMORE, Annette: Unmet Needs Of Deaf-Blind Children. The New Outlook for the Blind, 61: 262-266, # 8, Oct., 1967. P. 263, second new paragraph quoted in full:

For ten years, the Foundation has been sponsoring a monthly four-day evaluation for deaf-blind children at the Center for Development of Blind Children at Syracuse University. This has proved valuable in individual cases, and also in building up a body of knowledge and experience which should help in establishing similar clinics elsewhere. The Syracuse team is presently in the process of preparing a manuscript which will give the details of conducting an evaluation and the methodology employed--a manuscript which should serve as a guide to other clinics. Obviously the number of deaf-blind children actually studied at Syracuse in any one year is a drop in the bucket in meeting the overall need, particularly in view of the increased number of rubella babies coming our way.

Comments:

MEASLES BIBLIOGRAPHY

The Doc Replies. The Answer To A Danger All Young Mothers Fear. The Sunday Post, Scotland, page 21, May 12, 1968. Question and reply quoted in full:

My first baby is due. I'm worried sick because there's an outbreak of German measles in our district. How dangerous is this disease to a mother-to-be and how easily is it caught?

If contracted when less than three months pregnant, there's a high risk of defects in the baby--blindness, deafness, malformation or heart trouble. Fortunately, mothers-to-be who've had the disease are immune, and it's only moderately infectious, but mothers in contact with a case are often advised to have an injection of serum from an already immune person. This gives protection for two to four weeks.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

FERREE, John W.: The Blind Population: 1967-1977. The New Outlook for the Blind, 61: 290-295 + 308, # 9, Nov., 1967. ("This article also appeared in the Fall 1967 issue of the Sight Saving Review.") P. 295, paragraphs 5-7 quoted in full:

Infectious diseases and injuries as causes of blindness have continued to decline. The incidence of such cases may have reached the irreductible minimum. However, we must always be alert to potential increases in these causes.

With the measles-vaccine program, this cause, while not too significant numerically, should be virtually eliminated as have been diphtheria, smallpox, and the venereal diseases. More work needs to be done on the prevention of blindness due to trachoma in certain indigenous areas. Toxoplasmosis is another disease which needs to be watched as transmission of the disease in utero may result in visual impairment in the child.

Results of the recent rubella epidemic are still largely unknown. Unfortunately reports on children who are severely visually impaired, whatever the cause, do not reach agencies for the blind until the child is of school age. Will this result in a new "wave" of blind children such as that experienced with retrolental fibroplasia? Some experts think that this is what will be seen in the near future. If such is the case, then school facilities and special services will be taxed for several years to come. We do not have the answer now.

Comments:

MEASLES BIBLIOGRAPHY

Eye Condition in Measles. The Sight-Saving Review, 32: 151, # 3, Fall, 1962. Quoted in full:

It has been discovered that measles is associated with a keratoconjunctivitis which may persist for many weeks. In an article on "Keratoconjunctivitis as a Diagnostic Aid in Measles," in the February 17 issue of the Journal of the AMA, Drs. Alfred L. Florman and Howard J. Agatston report that the condition is usually asymptomatic and benign. It can be recognized only by the use of slit-lamp biomicroscopy and may be differentiated from keratoconjunctivitis due to other causes.

Thirteen of the children used in the study had been give gamma globulin because of exposure to the disease. While only four of them developed a rash subsequently, seven were found to have typical keratoconjunctivitis and three had suggestive lesions.

Since the lesions persist for as long as 15 weeks after measles the authors suggest that ophthalmologists consider the disease in the differential diagnosis of all instances of superficial keratoconjunctivitis. Commenting on this article an editorial in the same issue of JAMA states that recognition of the lesions in children who have received gamma globulin after measles exposure may avoid needless readministration on subsequent exposures.

READER'S COMMENTS:

(FLORMAN)

Eye Symptoms in Measles. The Sight-Saving Review, 32: 28, # 1, Spring, 1962. Quoted in full:

Mild cases of measles can be detected by a simple eye examination according to Drs. Alfred L. Florman and Howard J. Agatston. Writing in the February 17 issue of the AMA Journal, they said that in a study involving 34 children a slight inflammation of the cornea and lining of the eyelids was found as early as 10 days before other measles symptoms appeared. The inflammation remained as late as 117 days afterward.

Since the symptoms occur in the early stage of the disease, they can lead to prompt treatment. Ability to diagnose cases of mild measles, which provide immunity against the disease, often means that unnecessary preventive measures such as gamma globulin injections may be kept to a minimum.

READER'S COMMENTS:

I

Two Seeking Sign of Measles Find the Eyes Have It. The National Observer. p. 20, Sunday, Feb. 18, 1962. Quoted in full:

The onset of measles is reflected in its victims' eyes and can be detected by a simple eye examination, two doctors report in the current Journal of the American Medical Association.

A slight inflammation of the cornea (the transparent part of the coat of the eyeball) and the lining of eyelids, were found as early as 10 days before the more obvious signs of measles in a study of 34 children, Drs. A.L. Florman and H.J. Agatston said.

The eye symptoms in the early stage of the disease could lead to prompt treatment of measles, the doctors suggested. The symptoms also may signal the appearance of a mild case of measles in patients who have received gamma globulin for protection against the disease.

In that case further injections of gamma globulin would not be needed since mild measles provides immunity against the disease. Gamma globulin is a substance extracted from donated human blood which contains antibodies against measles.

Among the obvious symptoms of measles are fever, rash, spots, or cough.

Normally, the only way to determine immunity in persons who do not show such signs of the disease is to perform an expensive and time-consuming blood analysis in a virology laboratory. Such laboratories, however, are not available to all communities. But simple eye examinations with a microscopic device have been routinely performed by eye specialists for many years, for purposes other than detecting the onset of measles, the two doctors said.

Comments:

FRASER, G.R., and FRIEDMANN, A.I., With A Preface by L.S. Penrose: The Causes of Blindness in Childhood. A Study of 776 Children with Severe Visual Handicaps. Baltimore: The Johns Hopkins Press. 1967. xvii + 245 p. $12. Available at American Foundation for the Blind, 15 West 16th Street; call-number HV 1943 F 862.

P. 10-11, rubella antibodies; 66-68, prenatal rubella; 85, no buphthalmos following maternal rubella; 105-107, blindness due to rubella cannot be so identified in every individual case; 126, one doubtful case and one definite case of rubella blindness; 141-144, low educational status of 12 children presenting rubella embryopathy cum deafness, and rubella as one cause of prenatally acquired blindness; 158-159, onset of macular lesions after measles, Table I-4; 177-180, rubella contact and cataract and myopia, Tables V-2 and V-3 and VI-1.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

Free Vaccine by State Cuts Measles Cases 92%. The New York Times, page 20 L, Monday, August 21, 1967. Quoted in full:

ALBANY, Aug. 20 (AP)--Measles cases in New York State are running 92 per cent below last year's level primarily because of free distribution of measles vaccine, Governor Rockefeller's office reported today.

Mr. Rockefeller made public a State Health Department report that that said only 850 cawes of measles had been reported in the first six months of this year, compared with 10,306 at the same time last year.

The Governor pointed out that, since a free-vaccine law was enacted in 1965, the state has distributed 532,000 doses of vaccine in New York City and upstate communities.

READER'S COMMENTS:

25

(FRY + DILLIANE + FRY)

Current Articles. The Sight-Saving Review, 33: 113-121, # 2, Summer, 1963. Fry abstract on 116. Quoted in full:

Rubella, 1962. J. Fry; J.B. Dillane; L. Fry. British Medical Journal. No. 5308; p. 833. September 29, 1962.

In 1962, during a five-month period, 355 cases were reported in a rubella epidemic which broke out in a suburban London practice totaling 6,500 persons. The infection probably occurred in another 200 unreported cases as well.

The disease is particularly dangerous to women in their first four months of pregnancy, during which time it can permanently damage the fetus. A therapeutic abortion was performed on one woman who was 10 weeks pregnant when she developed a rash and enlarged cervical glands. Gamma globulin was given to seven others who were less that 16 weeks pregnant.

More than 50 per cent of children between five and 10 years of age were affected by the rubella outbreak, but none were seriously ill. Of the 74 adult cases reported, 11 developed transient arthritis.

READER'S COMMENTS:

26

GELTZER, Arthur I.; GUBER, Donald; and SEARS, Marvin L.:, Ocular Manifestations of the 1964-65 Rubella Epidemic. American Journal of Ophthalmology, 63: 221-229, # 2, Feb., 1967 (19 ref.)

Table 3 on p. 223 lists specific eye finding.

Summary on p. 228 lists total number of patients as 105.

P. 221 lists Connecticut statistics.

READER'S COMMENTS:

German Measles Virus Recovered From Infants. The New York Times, p. 67, Sunday, Dec. 27, 1964. Quoted in full:

BOSTON (Science Service)--Recovery of German measles virus from three malformed infants whose mothers had had the disease early in pregnancy is expected to give scientists new knowledge in these two areas:

The manner in which the rubella virus produces damages to developing human embryos.

The way in which the virus may survive between epidemics in the population.

Reporting in a recent issue of the New England Journal of Medicine, three Harvard School of Public Health scientists reported that the virus was recovered from the throats of the babies.

The scientits are Dr. Charles A. Alford Jr., Dr. Franklin A. Neva and Dr. Thomas H. Welle. They reported continued recovery of the virus for several weeks following birth of the infants, each of whom showed evidence of impaired development and of heart or eye damage.

Comments:

GOAR, Everett L.: Medicine's Responsibility in the Field of Ophthalmology. The Sight Saving Review, 32: 78-81, # 2, Summer, 1962.

P. 79, col. 1, second new paragraph: The pediatricians examine children from the day of their birth through the twelfth year. They are in a position to detect the first sign of disease in babies' eyes. Ophthalmia neonatorum and interstitial keratitis have practically been eliminated since the advent of antibiotics. However, strains of organisms are developing that are resistant to known antibiotics so these two diseases still remain hazards. Retrolental fibroplasia appeared on the scene some twenty years ago, but it has almost disappeared, since after years of research and thousands of blind babies it was found that hyperoxygenation of premature infants was the cause of the condition. Occasionally we see a German measles baby but it seems likely that before long an anti-measles virus will be available to prevent this disaster.

READER'S COMMENTS:

GOAR, Everett L., and POTTS, Charles R.: The Relationship of Rubella in the Mother to Congenital Cataracts in the Child. Transactions of the American Ophthalmological Society, 43: 135-141, 1945, discussion by Algernon B. Reese, Frederick C. Cordes, L.T. Post E.L. Goar, E.C. Ellett, T. T.L. Terry, Wendell L. Hughes, C.A. Clapp, John Green, Alan C. Woods, 141-149

Page 140, opening sentence of authors' conclusions: Seven cases of congenital cataracts are recorded, all of them accompanied by other defects, usually congenital heart lesions, poorly developed musculature and retarded mentality.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

GREGG, N. McAlister: Congenital Cataract following German Measles in the Mother. Transactions of the Ophthalmological Society of Australia (British Medical Association), 1941, 3: 35-45, 1942; Discussion by D.R. Gawler, Archie S. Anderson, G.H. Barham Black, A.W. O'Ombrain, A.L. Tostevin, W.M.C. Mac Donald, and Leonard J.C. Mitchell, 45-46.

Review of 78 cases, including 13 personal ones. Page 41, last new paragraph, opening sentence: In all but ten cases in this series the history of "German measles" infection is present.

READER'S COMMENTS:

GUERRY, DuPont: Congenital Glaucoma following Maternal Rubella. Report of Two Cases. American Journal of Ophthalmology, 29: 190-193, # 2, Feb., 1946. (3 ref.)

One boy aged 3 years and one girls aged 3 years in Richmond, Virginia.

READER'S COMMENTS:

HATFIELD, Elizabeth Macfarlane: Causes of Blindness in School Children. The Sight-Saving Review, 33: 218-233, # 4, Winter, 1963. Also: Reprint.

Rubella is listed in table 4 (p. 233) and table 6 (p. 227). Three sentences on p. 222-223 concern rubella: Four per cent of the blindness was due to infectious diseases. Toxoplasmosis and rubella (German measles in the mother) were most frequently specified. Each accounted for nearly one per cent of the cases.

A further statement concerning rubella appears on p. 232: Some increase was noted in the occurrence of blindness due to toxoplasmosis and to rubella (measles in the mother during pregnancy which must be watched.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

Here and There. Children, Washington, D.C., 12: 202-205, # 5, Sept.-Oct., 1965. Item 1 on p. 205 quoted in full:

Rubella

By mid-July, 44 States had responded to requests from the Children's Bureau for information about the effects of the nationwide rubella epidemic which began in the East in the winter and spring of 1963-64, and spread to the South and finally to the Far West in 1964-65--the worst epidemic of this disease in the United States in two decades.

The survey was initiated by the Bureau in the spring of 1965 to determine the ability of the States to meet the needs of children adversely affected before birth because their mothers had contracted rubella while pregnant. According to an estimate of Dr. Richard Masland, Director of the National Institute of Neurological Diseases and Blindness, the epidemic resulted in "at least 4,000 defective babies born to the 2 million pregnant women then at risk."

Rubella, when contracted by the mother in early pregnancy, may result in such malformations in the offspring as hearing impairment, cataracts, anomalies of the heart, microcephaly, and mental retardation. The infant may also be born with active rubella infection and be the source of secondary cases of the disease.

Reports from the survey thus far indicate that a number of State health departments have instituted procedures to follow up the children born of rubella-infected mothers. For example, the Kansas department, having from birth certificates a lead on rubella-connected disability, has instituted a followup study. California has appointed a full-time physician to follow up the cases of women who had rubella in early pregnancy.. Other State health departments have alerted physicians or local health departments to watch for rubella-damaged infants. A number of medical centers are conducting special studies, by multidisciplinary teams, in the evaluation of rubella-damaged infants.

...

The Baylor University College of Medicine, Houston, Tex., has been granted $70,344 by the Children's Bureau to maintain, for a 1-year period, a clinic for the multidisciplinary study and treatment of infants infected with rubella.

Public Health Service and industry scientists have recently developed a simple and rapid test for rubella, which provides identification of antibodies to this infection within 24 hours, as compared with the 2 weeks required for previous methods. Through use of the new test, the Public Health Service reports, timely reconnaissance can be made of any future rubella epidemics.

...

The Committee on Control of Infectious Diseases of the American Academy of Pediatrics recently issued a recommendation that "infants born with clinical features characteristic of intra-uterine rubella infection be managed with the same isolation precautions employed for patients with rubella."

READER'S COMMENTS:

35

(INGALLS)

Current Articles. The Sight-Saving Review, 33: 172-186, # 3, Fall, 1963. Ingalls abstrat on 184-185. P. 184, bibliographical data and first two paragraphs:

German Measles (1900-1960). T.H. Ingalls, Archives of Environmental Health. Vol. 5, No. 6; p. 574. December 1962.

Rubella contracted by a pregnant mother can result in the death of her child, or it can cause him to be born with congenital cataract, heart defects, deafness, or mental retardation.

Included in this review is data on 1,042 rubella-complicated pregnancies reported in various series between 1956 and 1961. Infection occurred in 489 women during the first trimester of pregnancy, in 422 during the second, and in 131 during the third. More than 30 per cent ES of the first trimester ended in death or deformity as compared to approximately seven per cent in the second trimester, and five per cent in the third. Infection contracted during the first two months of pregnancy raises the percentage to between a third and a half.

READER'S COMMENTS:

~~54~~
36

KRILL, Alex E.: The Retinal Disease of Rubella. Archives of Ophthalmology, 77: 445-449, # 4, April, 1967. (48 ref.)

One personal case in congenitally deaf girl of 13 in Chicago.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

(LIGGINS + PHILLIPS)

Current Articles. The Sight-Saving Review, 33: 172-186, # 3, Fall, 1963.
Liggins abstract on 185. Quoted in full:

Rubella Embryopathy. G.C. Liggins and L.I. Phillips. British Medical Journal, No. 5332; p. 711. March 16, 1963.

An extensive 1959 epidemic of German measles in New Zealand led to this study of fetal abnormality in maternal rubella.

Fifteen of the 89 cases admitted to the series were given therapeutic abortions, and seven aborted spontaneously. Wherever possible, the newborn in the remaining 67 cases were examined by a pediatrician soon after delivery. Other specialists, including ophthalmologists, examined the children at the age of six months and at intervals thereafter until the presence of a major malformation could be excluded. The children ranged from 10 to 24 months at the time of the last examination. Further follow-up is planned when they reach four years of age.

Of the 32 pregnancies in which the rash appeared during the first trimester, fetal abnormality was found in 34 per cent. One other case resulted from infection contracted during the fifteenth week of pregnancy, which would be the very beginning of the second trimester.

Three infants died, two of them with rubella malformations. Nine had eye defects, including four with bilateral and two with unilateral cataracts; one of the latter had glaucoma in the opposite eye. There were three with pigmentation of the retina, one of whom also had a unilateral cataract. All babies with cataracts were given needling operations at various times during the first year of life. Multiple defects occurred in eight cases.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

Rubella Study in Sweden The Sight-Saving Review, 34: 20-21, # 1, Spring, 1964

P. 20, col. 1, opening paragraph: A widespread epidemic of rubella in Sweden in 1951 prompted an exhaustive and well-organized study entitled "Rubella During Pregnancy" by Dr. Rolf Lundstrom. In all, the year-long inquiry, sponsored by the Swedish National Board of Health, involved about 100,000 pregnancies. It included 1,159 children born to 1,146 women with histories of rubella; 463 of these mothers had contracted the disease during the first trimester of pregnancy.

P. 21, col. 1, concluding paragraph: Dr. Lundström is head of the Department of Epidemic and Infectious Diseases, Centrallasarettet, Eskilstuna, and assistant professor, Karolinska Institutet, Stockholm. His study, published as Supplement 133 of Acta Paediatrica (Stockholm, 1962), includes many helpful tables and an extensive bibliography. It should be of great value to ophthalmologists, pediatricians and others interested in the problem of maternal rubella.

2

Comments:

LUNDSTRÖM, Rolf, and BOSTRÖM,,Inga-Lisa: Rubella in Pregnancy and the Incidence of Developmental Anomalies of the Eyes. Acta Ophthalmologica, 36: 782-788, # 4, 1958. (2 ref.)

Last two paragraphs of authors' summary on 788:

An account is given of a special investigation, carried out at the Eye Clinic, Södersjukhuset, of children resident in Stockholm and its surroundings, with a view to ascertaining the incidence of anomalies of the visual apparatus.

Ophthalmologic examination could be performed in 29 of 33 children with a history of maternal rubella in the first trimester of pregnancy. Of these 29, two (7 per cent) were found to have congenital cataract, and six (21 per cent) chorioretinitis only, the total incidence of ocular anomalies amounting to 28 per cent. No such ocular defects were observed in any of the 25 children whose mothers had contracted rubella in the second trimester of pregnancy. Chorioretinitic changes, although not of typical appearance, were present in one of 10 cases with a history of maternal rubella in the third trimester of pregnancy. No developmental defects of the eyes were present in any of the children whose mothers had been in contact with cases of rubella during the current pregnancy, without contracting the illness, nor in any of the 30 controls.

READER'S COMMENTS:

McKinlock, Muriel: Summer Checkup for School Beginners. Advice from a nurse on getting your child off to a healthy and happy start. Parents' Magazine and Better Homemaking, 42: 40-41 + 81, # 8, Augustm, 1967.

Page 81, column 1, third new paragraph: Immunization against measles is now a reality. Since 1963 when the measles vaccine was first made generally available, 18 million doses have been given, all safely and effectively. And yet many parents have still not had their children inoculated against measles which, "of all the childhood diseases that remain," says Dr. H. Bruce Dull of the National Communicable Disease Center, "is the one with the most risk." Measles can lead to pneumonia and encephalitis. It can result in mental retardation, blindness or deafness, and can even be fatal. Before the vaccine, five million youngsters had measles every year; more than a half-million of these had complications, and five hundred a year died from it.

Page 81, columns 1-2, starting with last new paragraph: The next step in getting your youngster ready for school is an eye examination. The National Society for the Prevention of Blindness recommends that all children have a complete eye test at the age of three. Many serious conditions can be avoided if they are discovered and treated early. Most schools have vision tests but these are not intended to take the place of a full professional examination by a specialist. Schools teach children about eye safety and good eye health practices, but they do not diagnose or treat. Teachers and school nurses are alert to signs of poor vision and, should learning difficulties show up, they will notify the parents. It's much wiser, however, to have your child's eyes examined before deficiencies are detected at schoolx.

READER'S COMMENTS:

McLEAN, D.M.; et al.: Rubella Virus Infections During Pregnancy, Toronto, 1963-1966. The Canadian Medical Association Journal. 95: 1174-1178, # 23, Dec. 3, 1966. (28 ref.)

Page 1178: Rubella virus was isolated from the throat of five of seven infants born with stigmata of the "rubella syndrome" during 1965.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

MENSER, Margaret A.; et al.: Possible Chemical Factors in the Postnatal Development of Rubella Cataracts. Lancet, 2: 771-772, #7467, Oct. 8, 1966. (11 ref.)

Authors' summary, p.771, col. 2: A cataract formed in the right lens of a female infant with the rubella syndrome during a 6-week period of stress that included cardiac failure, vascular surgery, infection, and the administration of various therapeutic agents; a left cataract developed during the succeeding 6 weeks. Rubella virus was isolated from the cataractous material removed at operation on the right lens when the infant was 8 months old. Chemical induction or potentiation of rubella cataractogenesis may have been responsible.

Comments:

MEASLES BIBLIOGRAPHY

MENSER, Margaret A.; HARLEY, J.D.; HERTZBERG, R.; DORMAN, D.C.; and MURPHY, A.M.: Persistence of Virus in Lens for Three Years after Prenatal Rubella. The Lancet, 2: 387-388, # 7512, Aug. 19, 1967. (17 ref.)

Authors' summary at opening of article: Rubella virus was isolated from cataractous material removed at operation from the left eye of a male child aged 2 years and 11 months. Previously, the longest recorded postnatal persistence of rubella virus was 18 months. The unique growth pattern of ocular lens may favour prolonged survival of rubella virus in this tissue.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

Mothers Cautioned on German Measles. The New York Times, page 58, Sunday, May 10, 1964. Concluding paragraph quoted in full:

The major birth defects that can result from the expectant mother's infection with German measles during the first three months of pregnancy are deafness, structural heart defects and impairment of the large blood vessels leading from the heart, mental retardation and cataracts.

READER'S COMMENTS:

News in Brief. The New Outlook for the Blind, 61: 31, # 1, Jan., 1967 Col. 2, item 1 quoted in full:

Predictions of a vaccine against rubella before another major epidemic were issued at an international conference on vaccines sponsored by the World Health Organization and the Pan American Health Organization.

Speaking at a news meeting during the Washington gathering, Dr. Harry M. Meyer, Jr., said it no longer seems doubtful that a vaccine will be developed within a reasonable time. Dr. Meyer is associated with the Division of Biological Standards at the National Institutes of Health.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

O'NEILL, John F.: Strabismus in Congenital Rubella. Management in the Presence of Brain Damage. Archives of Ophthalmology, 77: 450-454, # 4, April, 1967. (14 ref.)

20 cases in Washington, D.C. Contact-lenses were found helpful.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

OSMUNDSEN, John A.: Rubella's Spread Is Laid to Babies. Persistence of Virus Called Peril to Pregnant Women. The New York Times, page 64, Sunday, February 14, 1965.

Col. 2, 1st new paragraph: The danger comes from the ability of the virus to produce birth defects, such as heart disease and cataracts, in babies whose mothers contracted German measles--or rubella--during the first 12 weeks of pregnancy.

Col. 6, 1st new paragraph: The New York University physician said an estimate of the number of birth defects that would occur in an infection load that high was impossible, because of fluctuations in the percentages of immune persons in the population.

READER'S COMMENTS:

Remember when measles had us in the dark? Parents' Magazine and Better Homemaking, 41: 117, # 11, Nov., 1966. Advertisement by Owens-Illinois, Toledo 1, Ohio, Quoted in full:

Mother kept window shades drawn to shield her child from the discomfort of sensitivity to light that occurs with common measles, the disease once so casually considered an inevitable part of growing up. But this minor annoyance of photophobia was overshadowed, medical and pharmaceutical researchers discovered, by the terrifying side effects of measles: ear and eye infections, pneumonia, encephalitis with its threat of permanent brain damage, and even death.

Then--over three years ago--from the unflagging labors of drug company and medical scientists, came a vaccine capable of completely eliminating common measles. Lifetime immunity for youngsters from a mere needleprick. Yet, deplorably, scarcely 25 per cent of our children have received the vaccination. Over 20 million under the age of six have not!

And so needless epidemics occur today, because apathetic or uninformed parents still are in the dark.

Meanwhile, scientists have turned their attention to the milder form--German measles. Milder? In children, yes. But this version of the disease, when contracted by a pregnant mother, insidiously threatens her unborn child with irreparable damage to heart, eyes, ears or brain. When this vaccine does become a reality, how long will we delay in shielding every little girl from the tragic darkness German measles can bring to motherhood?

Comments:

MEASLES BIBLIOGRAPHY

RHIM, Johng S., and SCHELL, Klaus: Cytopathic and Plaque Assay of Rubella Virus in a Line of African Green Monkey Kidney Cells (Vero). Proceedings of the Society for Experimental Biology and Medicine, 125: 602-606, #2, June, 1967. (13 ref.)

Authors' summary, p. 607, col. 2: An African green monkey kidney cell line (Vero) has been found to support growth of rubella virus. Cytopathic changes are pronounced and appear within 7 to 9 days after inoculation with 10^{-5} dilutions of the virus. Rubella virus also produced plaques in monolayer cultures of Vero cells under agar overlay. This cell system has been successful for the direct, reproducible titration of rubella virus and the demonstration of neutralizing antibody.

Comments:

MEASLES BIBLIOGRAPHY

ROBBINS, Nan, and STENQUIST, Gertrude: The Deaf-Blind "Rubella" Child. Descriptive Characteristics of Children with Auditory-Visual Impairments Resulting from Maternal Rubella During Pregnancy and Discussion of Implications for Educational Planning. Perkins Publication No. 25, January. Watertown, Massachusetts: Perkins School for the Blind. 1967. 111 p. $2. Available at American Foundation for the Blind, 15 West 16th Street; call-number HV 1663 R 537. (57 references on p. 109-111) P. 84-85, one paragraph of authors' "Concluding Summary and Discussion":

Descriptive Profiles of Behaviour

The epidemic of rubella between 1963 and 1965, with the anticipated increase in number of children with multiple handicaps who will require special educational placement, has led professional workers to consider whether or not group placement is possible for rubella children with partial vision and impaired hearing, instead of the 1 to 2 teacher-pupil ratio in Departments for Deaf-Blind Children. The visual acuity of the children is of concern in approaching this problem. Experience with this group of 26 partially-seeing, hearing-impaired rubella children suggests that, in cases of measured vision of better than 10/100, inability to succeed in classes for deaf children or for partially hearing children is a result of learning problems in addition to those resulting from decreased vision. These additional learning problems may include a generalized mental slowness, difficulty in attending to some types of visual material which deaf children reportedly deal with very well (as evidenced in the Knox Blocks sub-test of the Ontario), some distractibility, difficulty in learning speech due to poor imitation ability or poor memory for sequences, autistic-like tendencies, distortions of body image and disability in basic symbolic behaviour. The descriptive profiles in this section present sets of characteristics which have been noted in the group of rubella children which we have encountered in the Department for Deaf-Blind Children. Placement must be made on the basis of the inter-relationship of intellectual functioning as demonstrated on perceptual and sensorimotor tasks, visual acuity, severity of hearing impairment, social adequacy and responsiveness to the teaching situation, and ability to deal with symbolic learning.

Comments:

MEASLES BIBLIOGRAPHY

ROY, Frederick Hampton: Ocular Autostimulation. American Journal of Ophthalmology, 63: 1776-1777, #6, June, 1967. (8 ref.)

Authors' summary, p. 1777, col. 2: Four peculiar gestures of ocular autostimulation associated with the congenital rubella syndrome have been described. To my knowledge, there has been no previous description of the hand-wagging phenomenon. These phenomena may also occur with corneal, lens or retinal changes not associated with the congenital rubella syndrome.

Comments:

MEASLES BIBLIOGRAPHY

Rubella Symposium. American Journal of Diseases of Children, 110; 345-476, # 4, Oct., 1965. Joint session of the American Pediatric Society and the Society for Pediatric Research, Philadelphia, May 6, 1965.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

RUSK, Howard A.: No Laughing Matter. Measles Has Proved ~~A~~ 2 Serious Disease, But Now There Are Effective Vaccines. The New York Times, page 84, Sunday, October 24, 1965. Col. 2, paragraph 3, last sentence: Rubella virus infection in the developing fetus may cause cataracts, deafness, congenital heart disease and mental retardation.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

RUSK, Howard A.: Strides in U.S. Health. Johnson Is Told of 49 Measures Enacted Under His Administration. The New York Times, page L + 59, Sunday, July 21, 1968. Fourth new paragraph in column 2 quoted in full:

As the result of the development of a vaccine for measles in early 1963, there has been a decline of 50 per cent in the death rate from measles. By 1970 it is expected that measles will be virtually wiped out.

Comments:

MEASLES BIBLIOGRAPHY

SAUER, Louis W.: Measles Is Now Preventable. The PTA Magazine, 58: 19-20, # 3, Nov., 1963. Main part of article on rubeola, or "red" measles.

P. 19, col. 3, first new paragraph: It is of course very prudent to have the physician examine the child early and make a diagnosis. There are various other childhood rashes, each requiring different treatment, such as German measles or scarlet fever. When an occasional second case of measles is reported, it is quite likely that there has been a mistake in diagnosis; either the first rash or the current one was not measles.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

SCHEIE, Harold G.; SCHAFFER, David B.; PLOTKIN, Stanley A.; and KERTESZ, Elsa D.: Congenital Rubella Cataracts. Surgical Results and Virus Recovery From Intraocular Tissue. Archives of Ophthalmology, 77 440-444, #4, April, 1967. (12 ref.)

49 cases in Philadelphia

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

SCHMECK, Harold M., Jr.: Toll of Rubella Epidemic Assessed. The New York Times, page E 7, Sunday, Nov. 14, 1965.

Review of the literature since 1940.

Col. 1, paragraph 8, last sentence: The possible effects on the baby include these: serious and sometimes blinding eye defects; important and sometimes fatal structural defects of the heart; deafness; mental retardation.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

SCHMECK, Harold M., Jr.: Women Advised on Measles Care. 2 Blood Tests Suggested for Victims of Rubella. The New York Times, p. 49, Sunday, Sept. 13, 1964. Quoted in full:

BETHESDA, Md., Sept. 10--A woman exposed to German measles early in pregnancy should not only take gamma globulin, but she would also be wise to have two blood tests, provided they are readily available, a scientist said here today.

The tests would be done to determine whether the woman was infected with the German measles, or rubella, virus. The first test should be taken immediately, the second one or more months later depending on the stage of pregnancy. By taking the two tests at intervals it is possible to determine if there has been a recent infection with the virus.

The reason for these precautions is the danger that a German measles infection in the gravid woman might result in serious abnormality in her child.

The current estimates are that 50 percent of babies born to women who become ill with German measles in the first month of pregnancy will develop abnormalities. Eighteen per cent of babies born to those whose illness comes in the first three months of pregnancy can be expected to be abnormal.

The abnormalities include mental retardation, defects of the heart, cataracts and deafness.

Death or severe damage to the unborn baby can follow a mother's infection with any of 10 different know viruses, according to Dr. John L. Severhead of the section on infectious diseases of the perinatal research branch of the National Institute of Neurological Diseases and Blindness. He was one of several speakers today at a special seminar for science reporters held here by the National Institutes of Health.

Dr. Sever said that a new technique for testing blood antibodies developed at the University of Michigan School of Public Health and reported last week in Science appeared likely to make such tests much more widely available. The laboratory techniques for standards tests take one to two weeks, he said, whereas the new method, based on use of fluorescent antibodies, can be done in a few hours. Science is a weekly publication of the American Association for the Advancement of Science.

In his comments on the wisdom of blood studies to test for German measles infection, he stressed that this was advisable primarily in communities where such tests were readily available. The need for the tests could not be considered urgent enough to swamp the meager facilities of a locality, he indicated.

On gamma globulin, the blood fraction that contains protective antibodies, Dr. Sever noted that there had been wide variation in the effectiveness of the available lots of this substance. Some batches have proved protective, others have not, he said.

The perinatal research branch of the National Institute of Neurological Diseases and Blindness is involved in a long-term study of events during pregnancy and immediately thereafter that may adversely affect the baby.

This study, in progress for about four years, is usually called the collaborative perinatal study. It is being carried out by the institute in collaboration with 15 major centers in the nation. Some 50,000 pregnant women and their babies are to be studied.

Comments: medical

MEASLES BIBLIOGRAPHY

Scientists Hunt a Measles Virus. Hope to Develop Vaccine for Rubella, Which Maims and Kills Pre-Born Babies. Puerto Rico Test Area. Incidence of Mystery Germ High There---Plan Is to Grow It in Laboratory. The New York Times, page L 33, Monday, May 7, 1962. Quoted in full.

Special to The New York Times.

San Juan, P.R., May 6--A search has begun here for an insidious virus that maims and kills babies before they are born. If the search is successful, medical science may be able to prevent such tragedies with a vaccine.

Scientists representing the National Institutes of Health in Bethesda, Md., are looking for the virus that causes rubella, or German measles.

Although rubella is a mild form of measles that seldom gives victims serious trouble during or after infection, it is a source of birth defects when contracted during the first few months of pregnancy.

The incidence of such birth afflictions is as high as 40 per cent in this part of the world when the germ strikes during the first month. It averages 18 per cent over the first three months.

A study in Australia has reported an 80 per cent incidence of congenital abnormalities in babies born to women infected with rubella.

There is no way now to prevent such tragedies but for a woman to have had the disease before conception. In some parts of the world this way of immunization is being attempted through the organization of "rubella parties."

How birth abnormalities are produced by rubella infection is still a mystery, whose solution may mitigate some of the most serious aspects.

A unit of the Bethesda organization, the National Institute of Neurological Diseases and Blindness, is working on the problem through its Laboratory of Perinatal Physiology here, which studies life from conception to shortly after birth.

A Virusless Species

Its first task will be to find the rubella germ. Scientists have long known, from circumstantial evidence, that the disease is caused by a virus. The virus, however, has never been isolated, primarily because no way has been found to grow it in the laboratory.

This is what the group here aims to do. Dr. John Severs, chief of the institute's virus section, and Dr. Frederick C. Robbins, the Nobel Prize scientist from Cleveland Metropolitan General Hospital, spent two days recently on an islet off the east coast. They collected eleven monkeys, which were inoculated with material from rubella-infected tissue.

MEASLES BIBLIOGRAPHY (Cont.)

The animals taken from Cayo Santiago, the islet, are unusual among laboratory monkeys, according to Dr. William F. Windle, chief of the laboratory.

He said the 450 monkeys on the islet seemed to be almost germ-free, or at least did not appear to have any of the human or monkey viruses for which Dr. Severs had tested them.

Their virusless condition, which has come about apparently as a result of their twenty-four-year isolation, makes them fine candidates for research on virus infections, he explained. It also augers (sic) well for the possibility of infecting them with rubella, thereby to grow the virus, he added.

If that can be done, scientists may be able to isolate the germ and prepare a vaccine. At least they may learn how the rubella virus causes damage.

READER'S COMMENTS:

SELIGMANN, Jean H., and LEVINE, Milton I.: Measles a threat to unborn. The Newark Star-Ledger, page 22**, Monday, April 25, 1960.

Paragraph 5 quoted in full: This damage may be congenital cataracts causing difficulty in vision, heart abnormalities, loss of hearing or occasionally a smallness of the skull.

READER'S COMMENTS:

MEASLES BIBLIOGRAPHY

SEVER, John L.: Rubella Epidemiology and Vaccines. The Sight-Saving Review, 37: 68-72, # 2, Summer, 1967. (18 ref.)

P. 68, col. 1, paragraph 2, first two sentences: The frequency of abnormal pregnancy outcomes is approximately 50 per cent if rubella occurs in the first month of pregnancy, 22 per cent if it occurs in the second month, and six per cent if it occurs in the third month. Defects of the eyes are found in 15 to 20 per cent of these children.

READER'S COMMENTS:

(SEVER + SCHIFF + TRAUB)

Research and Invention. The Sight-Saving Review, 33: 160-163, # 3, Fall, 1963. P. 160, col. 1, item 1, first three paragraphs:

German Measles Virus

The German measles virus was isolated recently by researchers at the National Institute of Neurological Diseases and Blindness, thereby clearing the way for eventual development of a preventive vaccine.

John L. Sever, M.D., Gilbert M. Schiff, M.D., and Renee G. Traub, B.A., worked first with animals and then with human volunteers. They reported in the Journal of the AMA for November 10, 1962 that the virus they investigated could produce the disease in susceptible individuals and could subsequently be recovered from these patients.

Usually the rubella virus causes only mild illness, but it is a grave danger to women in early pregnancy because of the malformations it can cause in babies. Some of these produce blindness.

READER'S COMMENTS:

SMITH, Patricia Scherf: Editorial Notes. Rubella. The New Outlook for the Blind, 61: 132, # 4, April, 1967. Quoted in full:

Speaking of education, we want to call your attention to the article on page 106 dealing with the very special educational problems and needs of rubella-blinded children. It sets forth the problem and challenge that face us in the immediate years ahead.

The problem is urgent and requires the utmost in ingenuity and resources. Certainly it is time, in Mr. Campbell's words, for those concerned to reason together.

Dr. Waterhouse's article, and the one by Mrs. Wagner, are the first we have carried on rubella since the epidemics of 1963-65, but they will not be the last. As plans for dealing with these severely handicapped children materialize, the Outlook will report them.

While the problem is an immense one today, it appears that we will not again face a large influx of rubella-blinded children. As Mrs. Wagner points out, a vaccine for rubella is in the offing and will probably be available before the next major epidemic, expected about 1970.

We might, by the way, say a word about Mrs. Wagner's article. It departs somewhat from our usual pattern in that it does not deal with some specific aspect of blindness. We are publishing it because there is considerable confusion about what rubella is and what its effects are. Since we will be seeing many rubella-blinded children in the next two or three years, it seems logical to offer a summation of the cause of the problem.

READER'S COMMENTS:

SULLIVAN, Walter: German Measles. The New York Times, page E 7, Sunday, April 25, 1965.

Paragraph 5, last sentence: A rapid, easy test for rubella infection has just been developed by scientists from the N.I.H. which can determine whether a woman had been infected during the critical period of pregnancy and thus permit consideration of therapeutic abortion.

READER'S COMMENTS:

Though Infection is Cured, Eyes May Still Have It. Medical World News, December 22, 1967. Quoted in full:

The eye appears to be a snug, secluded harbor for various organisms after they have been eliminated from the rest of the body. And according to researchers reporting at a New York City seminar, this finding has therapeutic implications.

Dr. Jerome N. Goldman, a special fellow in experimental pathology at Boston's Retina Foundation, reported that he and his associates have detected living spirochetes in the eyes of congenital syphilis patients who had already undergone conventional treatment and had apparently been cured. The microbes were "undistinguishable from those known to cause syphilis."

Spirochetes persisted in the eyes of treated patients even after they received considerable doses of penicillin. "I don't think penicillin resistance is the cause of this," Dr. Goldman told the seminar, sponsored by Research to Prevent Blindness. "I think the organisms persist because they are sequestered back in the vitreous.

"Also, the eye has a low oxygen tension and a lower temperature--as much as 5° C lower in the central vitreous---than the rest of the body, These two facts may make the eye a good breeding ground for the anaerobic organisms that cause syphilis."

Disappearance and Improvement

Dr. Goldman noted that a penicillin-excreting mechanism has been discovered in the eye of rabbits, and this mechanism can be controlled with probenecid (Benemid, Merck). In preliminary clinical trials, administration of the synthetic penicillin, along with probenecid "brought about the disappearance of syphilis germs from the eye fluid as well as improvement in the inflamed eye."

Persistence of infectious agents in the eye after a disease runs its course may also influence the treatment of infants born with cataracts. Dr. Harold G. Scheie, chairman of the University of Pennsylvania ophthalmology department, found that he was getting poor results in removing cataracts from the eyes of infants whose mothers had been infected with rubella during the 1965 epidemic.

"Severe complications were occurring in the 35% of the rubella-cataract removals, compared with our usual 5% in ordinary congenital-cataract cases. The difficulty arose primarily from severe postoperative inflammation, so it occurred to us that the rubella virus might be the cause."

ie they are sequestered back in the vitreous. Perhaps penicillin has diffi-
ly in penetrating the barrier between the blood and the aqueous humor or the
rier between the aqueous humor and the vitreous.

nistration of the synthetic penicillin ampicillin, which penetrates the eye
ewhat better than ordinary penicillin, along with probenecid "brought about

"Severe complications were occurring in 35 % of the rubella-cataract

Cataract Surgery Delayed

Previous work had shown that the rubella virus usually disappears from the infant's body at about nine months of age. But Dr. Scheie and his associates found virus in the eyes of children up to 21 months old. "We took intraocular cultures, studying both the iris and lens material removed at surgery. Positive cultures were almost always obtained from the lens, suggesting that the virus might be retained there longer. Also, microscopic studies of eyes that had to be removed showed that the lens contained virus and inflammatory cells."

Because of their intraocular virus findings, Dr. Scheie's surgical team now postpones cataract operations until a child is at least two years old.

Rubella virus has been discovered in the eyes of a child who was even older. At the New York University Medical Center, the virus was found in the lens of a 30-month-old child with congenital rubella. Dr. Louis Z. Cooper, assistant professor of pediatrics, says that "persistence of the virus in the damaged lens, even after it cannot be detected elsewhere in the body, suggests that the lens has a unique relationship to other body tissues."

Comments:

VERNON, McCay: Characteristics Associated with Post-Rubella Deaf Children: Psychological, Educational, and Physical. The Volta Review, 69: 176-185, # 3, March, 1967. (14 ref.)

P. 176, opening paragraph: This study of the psychological, educational and physical characteristics of 129 cases of post-rubella children in a sample of 1468 deaf children in a school for the deaf indicates the implications of the 1963-65 rubella epidemic. High incidence of premature births, multiple handicaps (including aphasia); an IQ level significantly below that of the general population; academic under-achievement; and poor communication skills are some of the characteristics revealed by this study.

P. 178, Table I on 104 cases lists 2 cases of "Major Visual Pathology" in one group and, in a second group, visual pathology and cerebral palsy or aphasia or mental retardation.

READER'S COMMENTS:

WAGNER, (MRS.) Elizabeth M.: Maternal Rubella: A General Orientation to the Disease. The New Outlook for the Blind, 61: 97-105 + 112, # 4, April 1967. (33 ref. on p. 104-105 + 112) Subheads: Measles (Rubeola)--A Vaccine Licensed in 1963; The End of One Disease Is in Sight; German Measles (Rubella)--The Symptoms Are Not Universal; Maternal Rubella--Doctor Gregg and Congenital Anomalies; The Teratogenicity of Maternal Rubella; Numberous Studies on Rubella and Its Effects; Gamma Globulin Has Been Administered to Susceptible Women; Research on Maternal Rubella During the 1960's; The Classic Rubella Syndrome; The Infected Baby Can Pass on the Disease; A Recommendation for Isolation Precautions; The Need for A Rubella Vaccine; Interpreting the Statistics.

READER'S COMMENTS:

WATERHOUSE, Edward J.: Implications of German Measles Epidemic. Paper Read at Conference of Executives of American Schools for the Deaf Hot Springs, Arkansas, April 28, 1966. The Lanter, Perkins School for the Blind, 36: 10-14, # 1, Sept., 1966. P.14, col. 2, concluding paragraph quoted in full:

The United States for once is not first in the field, and in this case we can be most grateful. England has had several serious rubella epidemics. In late December 1965 I attended the second of two Symposia on rubella children that have been held in England in recent years. This was at Oxford and over one hundred persons attended, the majority being parents of deaf-blind children. Indeed the initiative in the United Kingdom has been taken by a group of parents who have organized an association to the great embarrassment of educators. Let us not make the same mistake. It is up to us to help parents and not the reverse. Let us, if possible, be the ones to move toward a solution; we have no time to waste.

Comments:

WATERHOUSE, Edward J.: Rubella: Implications for Education. The New Outlook for the Blind, 61: 106-112, # 4, April, 1967. (33 ref. on p. 111-112)

Subheads: Eight Were Able to Profit from an Educational Program;

When a Child Should Be Classified as Deaf-Blind;

Programs for Educating Deaf-Blind Children;

The Probability of a Thousand Educable Deaf-Blind Children:

One Requirement for a Successful Training Program;

The Very Special Demands Made on Staff Members;

An Inadequate Number of Well-Trained Teachers;

Who accepts Responsibility for Deaf-Blind Children;

The Most Serious Thought about Responsibilities;

The National Committee for Deaf-Blind Children.

READER'S COMMENTS:

WELLER, Thomas H.; ALFORD, Charles A., Jr.; and NEVA, Franklin A.: Changing Epidemiologic Concepts of Rubella, with Particular Reference to Unique Characteristics of the Congenital Infection. The Yale Journal of Biology & Medicine, 37: 455-467, # 6, June, 1965; discussion by Professor Dorothy M. Horstmann on 467-472. (46 ref. on 465-467; 7 ref. on 472)

P. 462: examination of 116 specimens in 1963-64 in Connecticut.

READER'S COMMENTS:

WRIGHT, (DR.) Phyllis, with ZIMMERMAN, David R.: Medicine Today. Ladies' Home Journal, 85: 23, # 2, Feb., 1968. Item 2 in col. 2 quoted in full:

German measles, or rubella, during pregnancy takes so high a toll of dead and deformed babies that some physicians want the recently introduced HI--for Hemagglutination-Inhibition--test made a marriage-license requirement. It could be run from the same blood used for syphilis detection, and would show if a woman already has had rubella. She would then be better able to decide what to do if she became exposed to rubella after becoming pregnant. If she'd had the disease already, she could continue the pregnancy, secure in the feeling that the baby would not be deformed. But if she hadn't had rubella, she and her obstetrician well might decide on a therapeutic abortion. In this situation, abortion now is legal in many places.

READER'S COMMENTS:

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